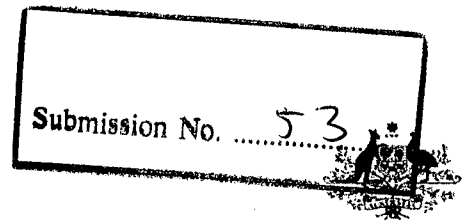


Industry Research and Development Board

Australian Government

Department of Industry Tourism and Resources
AusIndustry

Level 6 33 Allara St
Canberra City ACT 2601

GPO Box 9839
Canberra ACT 2601 Australia

Phone: +61 2 6276 1026
Facsimile: +61 2 6213 7677

Email: irdboard@industry.gov.au
Web: www.ausindustry.gov.au

ABN: 51 835 430 479

Ms Anna Dacre
Secretary
Standing Committee on Science and Innovation
House of Representatives
Parliament House
CANBERRA ACT 2600

Dear Ms Dacre

I refer to recent advice that the House of Representatives Standing Committee on Science and Innovation is conducting an inquiry into pathways to technological innovation and your request for submissions to the inquiry.

On behalf of the Industry Research and Development (IR&D) Board, I am pleased to provide some background material about the Board and its programs which I trust will be of interest to the Committee. Should the Committee wish, I would be pleased to arrange access for the Committee to some of the businesses that have, with the assistance of the Government's innovation programs overseen by the Board , successfully brought technological innovations to market over the past few years.

Industry Research and Development Board
The IR&D Board is an independent body responsible for assisting the Australian Government encourage research and development (R&D) and commercialisation in Australian business. I have attached an outline of the current membership of the Board for the Committee's information. The Board operates under the auspices of the *Industry Research and Development Act 1986* to assist the Government in its administration of a number of innovation programs:

- **The R&D Tax Concession program:** a broad-based, market driven tax concession which allows companies to deduct 125% of eligible R&D expenditure when lodging their corporate tax return. A 175% Incremental (Premium) Tax Concession and R&D Tax Offset are also available in certain circumstances.
- **Commercial Ready Program:** a competitive merit-based grant program supporting innovation and its commercialisation that commenced in October 2004. It aims to stimulate greater innovation and productivity growth in the private sector by providing $1.4 billion in competitive grants to small and medium-sized businesses to 2010-11. It offers industry a single entry point to competitive grants for research and development, proof-of-concept and early-stage commercialisation activities.
- **Commercialising Emerging Technologies (COMET) program:** a competitive grants program that supports early-growth stage and spin off companies to successfully commercialise their innovations by providing access to business services and advice.

- **Innovation Investment Fund:** a venture capital program that invests in nine private sector venture capital funds to assist small companies in the early stages of development to commercialise the outcomes of Australia's strong research and development capability.
- **Renewable Energy Equity Fund:** a specialist renewable energy equity fund based on the Innovation Investment Fund model. It provides venture capital to assist small companies to commercialise R&D in renewable energy technologies.
- **Pre-Seed Fund:** a competitive pre-seed fund for universities and public sector research agencies which addresses the gap between promising scientific discoveries and commercialisation. It assists the commercialisation of public sector R&D activities by further developing the management and entrepreneurial skills of public sector researchers and build links with the finance and business community.
- **Pharmaceutical Partnerships Program (P3):** aims to increase the amount of high quality pharmaceutical R&D activity in Australia, including in biotechnology, originator and generic medicines companies. Participating companies receive thirty cents for each additional dollar they spend on eligible R&D in Australia up to a maximum grant amount of $10 million.
- **R&D Start:** a merit-based program designed to assist Australian industry to undertake research and development and commercialisation through a range of grants and loans. Just over 1,380 grants and loans have been approved over the life of the program, valued at $1.4 billion. The program concluded in September 2004 and has been replaced by the Commercial Ready program.
- **Biotechnology Innovation Fund:** provided financial assistance to companies to demonstrate proof-of-concept between the initial research stage of a biotechnology project and the early stage of its commercialisation. Two hundred and eleven grants were awarded over the life of the BIF program, valued at $47.5 million. The program concluded in September 2004 and has been replaced by the Commercial Ready program.
- **Automotive Competitiveness and Investment Scheme:** encourages new investment and innovation in the automotive industry.

IR&D Board research studies

In addition to its role in administering and providing expert advice to the Government's innovation programs, the remit of the IR&D Board extends to the study of industry research, development and innovation. The IR&D Board has, over the past 12 months, undertaken two key studies into research and development and commercialisation by business in Australia. The findings of these studies may be useful to your investigations regarding pathways to commercialisation.

Changing commercialisation strategies in Australia

In 2003, the IR&D Board conducted a survey of 33 firms from five sectors – biotechnology, information technology, manufacturing, resources and services – to develop a snapshot of how Australian firms are taking ideas to market. The survey found that most firms adopt a "portfolio" approach to technology acquisition and commercialisation. The survey also showed that approaches and priorities for achieving commercial outcomes vary according to sector, firm size and ownership, and even within these categories.

Key findings from this survey include the following:

- Firms employ a high level of technology scanning and screening;
- Companies are more targeted in their R&D and technology acquisition;
- Outsourcing appears to be a growing trend;

- Commercialisation involves several "success" factors, such as demanding customers; niche technology advantages; effective research partnering; adequate capital; establishment of appropriate channel partners; IP protection and market knowledge;
- There are barriers to globalisation, but none are insuperable; and
- Government policies and support are generally seen as beneficial.

SMEs: Taking innovation to the global market

This study surveyed 25 firms participating in the R&D Start or Biotechnology Innovation Fund programs to gain a better understanding of the issues that impact on the decisions of firms to sell to an overseas entity or establish an overseas holding company. These firms had all either been sold to, or merged with, foreign companies; established an overseas holding company or headquarters; or sold or transferred intellectual property to an overseas company.

Drawing on qualitative and quantitative information, the study found that innovative SMEs established in countries with small markets, such as Australia, will generally seek to take their novel product, process or service to the global market, which can be done via a number of mechanisms, including offshore sale or establishment of a holding company. Factors underpinning the offshore sale of firms include the need to access larger markets to increase sales and revenue, to tap into complementary marketing and management skills, and to utilise existing sales infrastructure. Offshore sale was generally not part of the firms' business plans, but rather a response to emerging opportunities.

Most firms participating in the study viewed the sale of a business to, or merger with, an overseas entity as a positive development. They found that it led to the expansion of their core R&D operations in Australia, with associated growth in local employment and turnover.

Key drivers for overseas sale included:

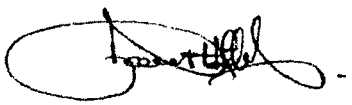
- The need to raise funds to continue R&D and its commercialisation;
- Access to support from global firms;
- Gain regulatory approval in offshore markets; and
- The founder's desire to realise the value of their investment in the business.

I have also attached further details on the methodology and findings of these studies.

Further information

The Board would welcome the opportunity to expand on this submission or to provide any further information that you may require. To this end, please contact Ms Merryn Kennedy, Manager, AusIndustry Secretariat on 02 6276 1026 to organise an appointment with me and/or other members of the Board.

Yours sincerely



David Miles
Chairman
29 April 2005

#53

An Australian Government Initiative
AusIndustry

IR&D Board Members

Who are they?

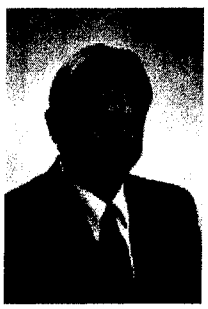
Mr David Miles was appointed Chairman of the IR&D Board in March 2003. He is a Consultant with Corrs Chambers Westgarth and was previously the firm's Chief Executive and National Managing Partner. He is also Chairman of the National Innovation Council. At the invitation of the Business Council of Australia and the Federal Government, Mr Miles chaired the National Innovation Summit held in February 2000. Subsequently, Mr Miles was made Chair of the National Summit Implementation Group which produced the Report reviewing the Summit's recommendations. In addition, Mr Miles is a Board member of BAA Australia and is the independent Chairman of Uniseed Pty Ltd. Mr Miles holds a Bachelor of Laws (LLB).

Professor Peter Andrews AO is the Queensland Chief Scientist and former Co-director of the Institute for Molecular Bioscience at the University of Queensland and CEO of its commercialisation arm, IMBcom Pty Ltd. He is also a former Dean of Science and Technology at Bond University, immediate past Chairman of the Australian Institute of Marine Science and Past-President of the Asian Federation of Medicinal Chemistry. He is a member of the IR&D Board and of the Australian Biotechnology Advisory Committee, a Director of Alchemia Pty Ltd, Xenome Ltd, Protagonist Pty Ltd, and Nanomics Biosystems Pty Ltd, and a Fellow of the Australian Academy of Technological Sciences and Engineering and the Australian Institute of Company Directors. He currently holds the positions of Chairman, Magic Pudding Company and Chief Scientist, Queensland.

Professor Trevor Cole is the Peter Nicol Russell Professor of Electrical and Information Engineering at The University of Sydney and Executive Chairman of the Australian Microelectronics Network. He has undertaken research in signal and image processing and has a strong involvement in the commercialisation of technology and regional economic development through technology-based industry. Previously he has held positions with CSIRO and various research and development agencies in Europe. He was Chair of OTC's Research and Development Advisory Board and co-founder of the speech technology company, Syrinx Speech Systems. He is a Fellow of the Academy of Technological Sciences and Engineering and Honorary Fellow of the Institution of Engineers Australia. Professor Cole was a member and then Chairman of the IR&D Board's Engineering and Manufacturing Committee from 1997 to 2002.

Professor Suzanne Corcoran is emeritus professor of law at Flinders University in South Australia and a professorial fellow at the Australian National University. She has served as chair of the Academic Senate at Flinders University, as a member of the Flinders University Council, as Associate Dean (Research) and Deputy Dean of the Flinders University Law School. She is a consultant to the Auditor General of South Australia and a member of other government and company boards. Professor Corcoran has more than twenty years experience as a Barrister and solicitor in the private sector.

Mr Alan Cox began his career in financial services. He was Chief Executive Officer of Natwest (Australia) Bank and Executive Chairman of Jardine (Australia) Insurance Brokers. He now advises a number of enterprises in both government and the private sector.

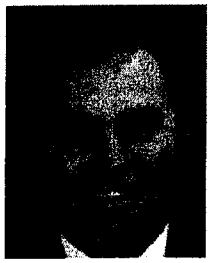


Dr Laurence Hammond is a director and founder of Timsco Pty Ltd, an early-stage venture capital investor and investment management company for new technology-based enterprises. Timsco Pty Ltd operates inQbator, an incubator of new ventures in the information and communications technology sector. He is also the principal of KNODE Partnership, an advisory and consultancy firm, with clients in both the private and public sectors. He serves as a director of several private companies. Previously, Dr Hammond was Managing Director of the MFP Development Corporation and Chief Executive of the Foundation for Research, Science and Technology in New Zealand. Dr Hammond has been a member of the Industry Research & Development Board since May 1999, and chaired the R&D Tax Concession Committee since June 2000. He is also a member of the Federal Government's Cooperative Research Centres (CRC) Committee, and the Queensland Government's Food and Fibre Science and Innovation Council. He is a former Vice-President of the Federation of Australian Scientific and Technological Societies. He has participated in many national science-based advisory groups and reviews, including the "Oceans of Wealth" review and the Offshore Petroleum Environmental Review Project in Australia, and the Strategic Research Consultative Group and the Science Priorities Review in New Zealand. He has interacted closely with innovation policy, management and investment bodies in many countries. Dr Hammond has a BSc (Hons) from James Cook University, a PhD from the University of West Indies, Jamaica, and an MBA from the University of Melbourne, and was a Queen's Fellow in Marine Science during a 12-year career as a research scientist.

Mr John Hayward is a partner in the Perth Office of Freehills where he specialises in revenue and foreign investment law. He has extensive experience working in South East Asia and has been a director of several public companies and of the Australian subsidiaries of several multinational groups. Mr Hayward has presented numerous papers on revenue law, corporations law and foreign investment, both in Australia and South East Asia. Mr Hayward graduated in law (LLB) from the University of Western Australia and joined the predecessor to the Perth office of Freehills in 1965 where he became a partner in 1969. He is a Fellow of the Taxation Institute of Australia and a Foundation Fellow of the Australian Institute of Company Directors.

Mr Leslie Victor Hosking is CEO of the National Electricity Market Management Company. He is the immediate past Chief Executive Officer of Axiss Australia which reported to the Federal Treasurer, the Hon Peter Costello. In 2000, after 15 years as CEO and Director of the Sydney Futures Exchange, Mr Hosking was inducted into the Australian Banking and Finance Hall of Fame for his significant contribution to the Australian financial services industry. He is a former Board member of the Australian Centre for Advanced Computing and communication. Mr Hosking was appointed as a member of the IR&D Board and Chair of its Fund Management Committee in August 2003.

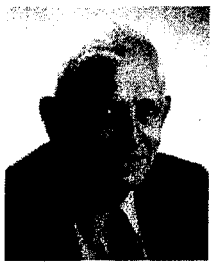
Dr John Keniry is Chairman of the Ridley Corporation. He is a member, and immediate past President, of the Australian Chamber of Commerce and Industry. He has formerly held executive positions with CSR Ltd and Goodman Fielder Ltd as well as positions in a number of other private sector companies. He has also served on statutory bodies. Dr Keniry is a former member of the Prime Minister's Science, Engineering and Innovation Council, a former member of the CRC Life Sciences Panel and a former director of the Pig R&D Corporation. He is the former Chairman of the CRC for International Food Manufacture and Packaging Science and was a member of the National Research Priorities Consultative Panel. He is currently serving as Chairman Unisearch Limited, and is a member of the NSW Environment Protection Authority Board. Dr Keniry holds a PhD in Chemical Engineering from the University of Cambridge. In addition, Dr Keniry was appointed Chairman of the Board's Engineering and Manufacturing Committee in December 2002.



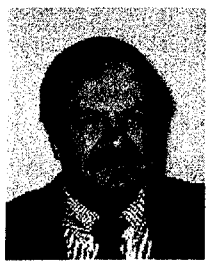
Mr Bill Peel is the Executive General Manager of AusIndustry and the Board's Ex-officio member. He has had an extensive career in public administration with 17 years in the Australian Government's Senior Executive Service in major policy and operational roles. He has also worked in the offices of a number of Australian Government Ministers. Mr Peel holds a Bachelor of Arts degree with majors in Public Administration and Politics. His public sector experience is extensive having been responsible for organisations with staffing levels ranging from a handful to 3,500 in Australia and overseas. Bill, together with the rest of the senior management team in AusIndustry, share a commitment to customer service and achieving genuine outcomes for Australian business.

Dr Deborah Rathjen is CEO & Managing Director of Bionomics Limited, taking up her appointment with Bionomics on 19 June 2000.Dr Rathjen has a Bachelor of Science (Honours) degree in biological sciences from Flinders University in Adelaide, and a PhD in Biology from Macquarie University, Sydney, in a joint program with the CSIRO.Following post-doctoral studies at the Kolling Institute of Medical Research, she joined Peptech Limited in 1988 as a Senior Scientist and held a variety of positions there, including Group Leader Biomedical Research, Project Manager Pharmaceutical Research and Development and, Manager, Business Development and Licensing.An inventor of 10 patent families, Dr Rathjen has extensive experience of intellectual property and licensing issues in the biotechnology industry. Dr Rathjen was co-inventor of Peptech's TNF technology and leader of that company's successful defense of its key TNF patents against legal challenge by BASF. Dr Rathjen is Chair of the Industry Research and Development Board's Biological Committee, a member of the Australian Biotechnology Advisory Council and a member of the Prime Minister's Science, Engineering and Innovation Council.

Mr Peter Thomas is a Chartered Accountant and Tax Adviser in private practice, based in Sydney. Prior to going into private practice, he was, for nearly 25 years, a partner of the Accounting and Advisory firm, KPMG, where he specialised in corporate and international tax and, latterly, in the taxation of international executives and professional partnerships. For a number of years he was also leader of the firm's "research and development" practice, advising clients on the R&D tax concessions. From 1988 to 1994 Mr Thomas led the firm's Australian tax practice and was a member of the KPMG global Tax Committee. Mr Thomas' extra-curricular activities have seen him as a board member of The Museum of Contemporary Art, and of the Australian branch of the World-Wide Fund for Nature, a major non-government environment/conservation group. In addition to his IR&D Board appointment, Mr Thomas is also a Member of the Board's Tax Concession Committee.



Dr Geoffrey Vaughan is Chairman of the Board's Pharmaceuticals Committee and is Chairman of the Cooperative Research Centres Committee administered by the Department of Education, Science and Training. He is a Director of the Institute of Drug Technology Limited, BresaGen Limited and Medica Holdings Limited. Dr Vaughan holds the degrees of Doctor of Philosophy (Microbiology) and Master of Science (Chemistry). Previously he was the National Manager and CEO of the Therapeutic Goods Administration and Deputy Vice-Chancellor of Monash University.



Dr Neil Weste has a BSc, BE(Elec.) and PhD from the University of Adelaide. He spent 18 years in the US working for Bell Labs, MCNC and Symbolics Inc. before co-founding TLW Inc., an IC design house in Burlington, MA. He returned to Australia in 1995 as Professor of Microelectronic Systems at Macquarie University. In 1997, he co-founded Radiata Communications, which pioneered single chip implementations of the IEEE 802.11a Wireless LAN standard. Cisco Systems acquired Radiata in 2001. In 2004, he founded NHEW R&D

	Pty Ltd, which manages angel investments in Australian high technology companies and carries out R&D in the RF IC area. Dr Weste is co-author of a best selling text on CMOS IC design originally published in 1985 and now in its third edition (May 2004). He is a Fellow of the IEEE and is a peer elected member of the IEEE Solid State Circuits administrative committee. He is a member of the ITR advisory board at the University of South Australia and an adjunct professor at Macquarie University and the University of Adelaide.

Australian Government

Department of Industry
Tourism and Resources

CHANGING COMMERCIALISATION STRATEGIES IN AUSTRALIA

A STUDY IN PROGRESS COORDINATED BY THE
INDUSTRY RESEARCH AND DEVELOPMENT BOARD

EXECUTIVE SUMMARY

Through a snapshot survey of some 30 Australian firms, it is clear that most firms adopt a 'portfolio' approach to technology acquisition and commercialisation.

This is a key finding of recent research by the IR&D Board into innovation as a major driver of growth and productivity and how firms take ideas to market.

The survey showed that approaches and priorities for achieving commercial outcomes vary according to sector, firm size and ownership, and even within these categories.

Other findings suggest that the 'portfolio' approach is supported by a high level of technology scanning and screening, with informal relationships including between firms, universities and CSIRO, replacing formal contracts.

The adoption of a 'portfolio approach' to technology acquisition and commercialisation signals that firms are finding advantage in a flexible, multi-source strategy. However, the apparently largely 'ad hoc' nature of the selection and operation of portfolio elements could indicate that there are ways to achieve larger benefits. Disadvantages of this approach may include missed opportunities in service development, finance and capital management and business model creation.

Interestingly, in line with the 'portfolio' approach most surveyed companies view the commercialisation process as a specialist business activity, which is increasingly done by specialist commercial service providers.

BACKGROUND

The Board is aware that the phrase 'open innovation' has become a touchstone among large company managers for both increasing the productivity of R&D and managing the risk aversion of shareholders, by relying more on early stage development performed in universities and start-up companies[1]

In part this can be viewed as a continuation of the management approach of business process re-engineering, where research and technology development are no longer seen as being a core operation within a business, but rather a function capable of being out-sourced to organisations whose core business it is, for example universities.

There is a growing recognition by managers and analysts that companies can access a far wider variety of knowledge resources outside their organisation than they could ever support within it. In other words, in the context of the global knowledge economy, the preferred strategy has moved from knowledge generation tightly linked to business strategy, to one where firms access and filter knowledge through a wide range of information sources.

In the context of creating new commercial products and processes, small firms may have specific organisational advantages, such as flexibility, greater opportunity for creativity, and faster speed of response to new opportunities. Larger organisations, necessarily operating within formal structures and procedures, are often finding it easier to access this capability from such firms than attempt to build it within their own company.

It is also recognised that research and technology development is only one, and not necessarily the most important, source of innovation. A variety of studies, going back to that of the Business Council of Australia 'Carnegie' Report [2], have shown that innovation in business processes, marketing, and supply chain management can provide major advances in productivity. Hence, significant innovation resources are being drawn from customers, suppliers, business partners and universities.

It is in this background that the Industry Research & Development (IR&D) Board has undertaken some initial investigation into how Australian firms are taking ideas to market.

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[1] eg Chesborough, H., *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Press, 2003

[2] Carnegie, Roderick - Business Council of Australia. 'Managing the innovating enterprise: Australian companies competing with the world's best' 1993

Thirty three Australian companies[3] were contacted in a survey across five sectors – biotechnology, information technology, manufacturing, resources and services. The companies also covered three types of companies – large global companies operating in Australia, large Australian companies and small and medium sized Australian companies. The longevity of the firms varied with all having some record of successfully taking products to the global market. Some background interviews were also held with key industry informants.

INITIAL FINDINGS

Firms adopt a variety of mechanisms for technology acquisition and commercialisation.

The survey shows predictable differences between the strategies of large and small firms. Small firms develop technology expertise to gain entry to global markets. Some key business strategies for larger companies include partnering, especially in Biotechnology and Information Technologies. However, in the Resources sector, demanding customers, and very strong publicly funded research infrastructure are considered more important.

The study found that the biggest challenge for **global companies operating in Australia** is finding an effective way to fit into the global strategy of the overseas parent, and to win approval for local initiatives.

For **large Australian companies**, the focus is on learning how to operate as a global company, with barriers to be overcome, but also many attractive and accessible opportunities.

For **manufacturing** companies, high expertise in very precisely targeted niche areas is the key to effective operation in international and global markets.

For **service** companies who now contribute most to GDP, knowledge rather than technology acquisition is central and there is a significant and growing out-sourced market in product development and delivery to market.

A 'PORTFOLIO' APPROACH TO TECHNOLOGY ACQUISITION

The study found a portfolio approach to technology acquisition to be common.

The portfolio approach includes: in-house R&D; outsourced R&D; technology licencing; collaborative partnerships with companies; collaborative external partnerships with universities or public research organisations (both formal and informal); and acquisition of specialist technology capability.

In-house R&D remains the most commonly used approach for technology acquisition, with little sign of a shift of resources away from this approach in Australian companies. Some large Australian companies acknowledged a previous era of significant in-house R&D cuts.

Importantly, the study found that a strong in-house capability in R&D is seen as necessary to effectively use the other portfolio approaches to technology acquisition.

The survey showed that smaller Australian companies favour in-house R&D, technology licencing and collaborative external partnerships with universities for technology acquisition.

Only the global companies have the resources to regularly use collaborative external partnerships with business or to acquire technology through acquisitions.

The interviewees indicated there was an increase in active collaboration with universities and the CSIRO, targeted to pre-determined areas of business focus with the relationship being more commonly informal than contract-based.

Last but not least in the portfolio is the acquisition of companies with specialist technology capability.

Selection within the portfolio appeared to be largely 'ad hoc' and context-dependent, being determined by the particular characteristics of each specific need or opportunity.

[3] In a few cases, recently retired CEOs were interviewed, taking advantage of their greater freedom to respond and offer insights

A HIGH LEVEL OF TECHNOLOGY SCANNING AND SCREENING.

The majority of companies - all sectors and sizes - had some form of regular, formal system for scanning markets, competitors, customers and research organisations for relevant new technology.

Global companies operating in Australia and large Australian companies in general have established scanning activity as a functional company competence, and evaluate market trends, customer views, emerging technologies and research frontiers.

Smaller Australian firms use advisory boards/panels of science and technology experts to provide the same service capability.

COMPANIES MORE TARGETED IN THEIR R&D AND TECHNOLOGY ACQUISITION.

Companies - all sectors and sizes - have identified a number of core competences and these provide the filtering framework for identifying technologies and business opportunities relevant to their strategies.

In manufacturing and resources, innovation targets are largely driven by the needs of a specific customer, and development involves a level of partnering with them. The services industry is similarly customer service driven, together with better exploitation of knowledge and information assets through knowledge management.

OUTSOURCING APPEARS TO BE A GROWING TREND.

The processes of product development and commercialisation are being seen by most surveyed companies as a specialist business activity which is better out-sourced to specialist commercial service providers. This would appear to be a consequence of two trends: first, is a decline in traditional product development capacity in larger companies; and, second, the growth of new start-ups based on key IP but with limited expertise or capacity to take the idea to market, particularly with the speed required to capture a short-term market.

Thus a growing band of companies, are finding a market in the provision of technology development and commercialisation services.

This development provides new business opportunities in Australia and overseas for knowledge intensive firms to provide services of for product development and delivery to market.

CRITICAL FACTORS FOR SUCCESSFUL COMMERCIALISATION

Critical factors for successful commercialisation identified were: demanding customers, niche technology advantages, effective partnering with researchers and other companies, adequate capital on manageable terms, establishing appropriate channel partners, IP protection, and market knowledge.

BARRIERS TO GLOBALISATION, BUT NONE INSUPERABLE

The survey identified a number of barriers that fitted largely with well-established perceptions:

- small scale of companies
- small scale of domestic markets
- small scale of capital markets
- very limited number of Australian global companies whose market access and know-how that could be leveraged on
- distance from markets and customers, hence problems of delivering customer support
- credibility in foreign markets ("there is a perception that Australian companies are not expected to be technologically smart"); and
- lack of appropriate positive brand image.

GOVERNMENT POLICIES TO SUPPORT TECHNOLOGY ACQUISITION AND COMMERCIALISATION

Global companies place emphasis on the conditions for a strong economy, transparent governance and political stability. The suite of R&D support programs are largely seen as beneficial, with a desire for less fragmentation, program continuity and a 'one stop shop' approach.

Some caution should be used in interpreting these findings. The sample of companies interviewed is biased towards outstanding technology-driven performers, with a strong commitment to R&D and to either global operations or major exports. Also, the sample is not representative across all industry sectors. Hence, the analysis is not intended to reflect the general picture of Australian company strategy. The findings are drawn from the interviews.

Australian Government

Department of Industry
Tourism and Resources

SMEs:
TAKING INNOVATION TO THE GLOBAL MARKET

A STUDY OF A SMALL NUMBER OF SELECTED PARTICIPANTS IN THE R&D START AND BIOTECHNOLOGY INNOVATION FUND PROGRAMS

COORDINATED BY THE INDUSTRY RESEARCH AND DEVELOPMENT BOARD

FEBRUARY 2005

EXECUTIVE SUMMARY

The Industry Research and Development Board (the Board) has completed a study of 25 firms participating in the Australian Government's R&D Start and Biotechnology Innovation Fund (BIF) programs. These firms had either been sold to or merged with foreign companies; established an overseas holding company or headquarters; or sold or transferred IP to an overseas company.

The key message that emerged from the research was that:
Innovative SMEs which are established in countries with small markets, such as Australia, will generally seek to take their novel product, process or service to the global market. This is done via a number of mechanisms, including offshore sale or establishment of a holding company.

Factors underpinning the offshore sale of firms include the need to access larger markets to increase sales and revenue, to tap into complementary marketing and management skills, and to utilise existing sales infrastructure. Offshore sale was generally not part of the firms' business plans, rather a response to emerging opportunities.

Most firms participating in the study viewed the sale of a business to, or merger with, an overseas entity as a positive development. They found that it led to the expansion of their core R&D operations in Australia, with associated growth in local employment and turnover.

Selection for participation in the R&D Start and BIF programs is seen as a positive sign by potential investors, including overseas investors. R&D Start and BIF program conditions requiring Board consent for offshore sale of participating firms also provide important leverage in maintaining activity in Australia.

BACKGROUND

The business environment is increasingly global and participation in international markets is important for Australian firms to expand their business. Given this, the Board is seeking to better understand the types of activities that impact on the decisions of firms to sell to an overseas entity or establish an overseas holding company.

The Board is seeking to ensure that the best outcome is achieved for Australia, given the funding support it provides to many growing firms.

Against this background, the Board undertook a small study of innovative Australian SMEs.

Twenty-five innovative SMEs were interviewed across the eastern States. The majority were in metropolitan areas, and two were from regional areas. Firms were primarily from the IT, biotechnology and medical sectors, with some from the manufacturing sector. In addition, five venture capital or investment firms were interviewed to provide a financiers' perspective on the issue.

MAJOR FINDINGS

Innovative Australian SMEs are undertaking R&D and developing novel products, processes and services that are marketable on a global scale.

The study confirmed the innovative nature of Australian SMEs receiving innovation grants. Foreign firms or financiers invest in Australian SMEs that have developed an innovative product with strong market potential. Attracting foreign investment or the interest of an international company is regarded as a sign of success.

Given the mix of foreign opportunities and the small local market, offshore sale or the establishment of a foreign holding company should be viewed as a positive step for innovative Australian SMEs.

This is confirmed by the reasons why foreign firms buy or form alliances with innovative Australian SMEs:

- expand product range;
- vertical integration;
- purchase a revenue stream;
- purchase R&D or new innovative products;
- access to technologically advanced inputs or raw materials;
- access to specialist industry knowledge;
- access to research staff with rare skills/technical expertise; and
- access to products, research and/or manufacturing facilities to service the Asia-Pacific region.

While Australia's domestic market is strong and growing, it is too small to enable innovative firms to source growth capital, increase sales and grow their business.

Most firms participating in the survey reported that a key reason to sell or move offshore was the small size of the local market. In this context, firms reported the following drivers for overseas sale:

- **Raise funds to continue R&D and its commercialisation.**

Capital for innovative R&D and its commercialisation can be less costly and more readily available overseas than it is in Australia. This is especially the case for capital beyond the A$10 million threshold.

Timely access to appropriate financial support is vital to bring R&D to market, to maximise the profitability of its exploitation and to maintain competitiveness by progressing R&D.

The study found that accessing foreign capital or handling negotiations with potential investors can be easier through a corporate vehicle and management team in the country where capital is sought. Many overseas venture capital firms, for example, require a holding company in the country which is providing the finance.

A number of participants from venture capital and investment firms suggested that the US may not be the automatic destination of choice for companies going offshore in the future. They also noted that the UK has developed an increasingly liberal investment environment and is starting to pick up some business that would previously have gone to the US.

The stage of development of the market will also drive decisions about sourcing capital and introducing innovative products. In certain sectors, Europe and North Asia offer more developed markets than the US, and are more likely to provide capital for R&D projects.

- **Support from global firms.**

Innovative Australian firms seeking to grow and increase earnings for re-investment in R&D, particularly those producing niche products or services, need to access overseas markets.

The study indicated that accessing overseas markets often requires a local sales and management team. Using the established sales and distribution infrastructure and networks of an overseas firm is a fast and effective way for Australian firms to make an impact on overseas markets.

Offshore sale or less formal alliances with a larger global organisation also strengthen the management and sales capabilities of Australian firms and allow them to draw on existing complementary technologies.

The study found that many Australian firms need staff with international commercialisation experience. As a result, they often look offshore for skills, expertise and experience which are not readily available in Australia.

There was some evidence that a foreign sale or merger may result in Australian-based personnel being more likely to start their own innovative businesses as a result of exposure to international commercialisation practices.

- **Gain regulatory approval in offshore markets.**

Entry to offshore markets often requires regulatory approval from relevant national authorities. This is a costly and time-consuming process which requires specialist, localised knowledge.

The US is generally considered to be the hardest market to break into and a local presence is usually necessary. This was found to be especially strong in the biotechnology and medical sectors.

- **Re-investment in new businesses.**

There was evidence that founders who sell their stake in an innovative SME to realise the value of their investment often use part or all of the proceeds to establish or invest in new Australian innovative businesses.

The offshore sale of innovative SMEs generally had a positive impact on both the Australian firm and the economy more broadly.

Firms' expectations of the benefits of overseas sale or establishing an overseas company were generally met and in many cases were exceeded. Most firms reported better access to capital, technical support, and skilled local sales staff.

Other benefits included regulatory assistance from experienced personnel and access to established infrastructure. In addition, stronger sales and turnover, improved profitability and increased employment were reported by firms.

Australian-based R&D and engineering operations in particular either had been unaffected or, more usually, had grown as a result of offshore merger or sale. In some cases, firms have become global R&D centres for their new partner/owner, capitalising on Australia's low costs and strong skills base.

Globalisation will continue to place innovative Australian SMEs under pressure to seek global alliances.

The study found that globalisation places innovative small firms in small markets under increasing pressure to seek global alliances to remain competitive.

Innovative SMEs which want to improve their market share, improve their competitiveness and generate new returns to invest in ongoing R&D need the capacity to spread their R&D costs and risks, and establish or draw upon complementary specialist skills, expertise and pools of excellence in selected countries.

Firms also need to be able to supply integrated product ranges to the international market.

These pressures are especially strong in the biotechnology and medical sectors, where rising standards, controls and licensing requirements for products are increasing the time and cost of R&D and its commercialisation.

These findings are an accurate reflection of the study, however caution should be used in applying them more broadly. The sample of innovative Australian SMEs is restricted to R&D Start or BIF grant recipients which requested, and generally received, agreement from the Industry Research & Development Board to overseas sale or establishment of an overseas holding company. The sample is thus not representative across all industry sectors and States and Territories, nor does it reflect the general picture of innovative Australian SMEs. The findings are drawn from structured interviews.